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TULAREMIA, AN ANIMAL-BORNE DISEASE 1/

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CURRENT SERIAL RECORDS

Introduction

Tularemia, sometimes called rabbit fever and deer fly fever, is primarily an infectious disease of wild rodents and man. The causative agent is a coccobacillus, Pasteurella tularensis. The infection may be carried by many wild and domestic animals and certain birds, as well as infected deer flies and ticks. Although the infection is of decreasing occurrence, tularemia is still a health hazard and its association with the wild rabbit, not the domestic ranch-raised rabbit, should be made clear.

History of the Disease

Named after Tulare County, California, where it was first studied in 1911, tularemia has been found to exist throughout North America, Europe, and Asia. The infection is identical with a rabbit-borne malady in Japan known as Ohara's disease. As the result of successful diagnostic techniques, investigations of wild animal carriers, and effective treatments with antibiotics, there has been a general decline in the number of cases of tularemia reported in the United States.

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1/ This supersedes Wildlife Research and Management Leaflet BS-5 of April 1935, formerly issued by the Bureau of Biological Survey, U.S. Department of Agriculture.

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## Sources of the Infection

Since the tularemia organism is capable of penetrating healthy unbroken skin, no scratch or wound is needed to provide a portal of entry into the body. Infection is most commonly acquired by handling the carcass or eating the undercooked flesh of infected animals. People have even been infected by drinking water from streams inhabited by diseased animals such as beavers and muskrats. The disease is carried from animal to animal and man to man by the bites of infected deer flies and ticks. Ticks carry the infection through the winter and the females may transmit it to the next generation through her eggs. Various species of lice also are capable of spreading the infection among animals.

Although the wild rabbits and hares are the most commonly infected animals, the following animals have all been found to be susceptible to tularemia in a fatal form--the California ground squirrel, Columbian ground squirrel, Utah ground squirrel, desert ground squirrel, pine squirrel, yellow-bellied chipmunk, pocket gopher, prairie dog, wood-chuck, opossum, porcupine, house mouse, deer mouse, meadow mouse, wood rat, skunk, muskrat, beaver, gray fox, ruffed grouse, sharp-tailed grouse, quail, coyote, domestic cats, and sheep.

Although a variety of wild and domestic animals may be infected with the disease, the chief source of the infection is still the wild rabbit. In a survey conducted in California and covering a 25-year period, the wild rabbit was found to be the source of infection in more than 80 percent of the cases recorded. Tick bites were involved in the remaining cases.

Domestic rabbits are known to be susceptible to tularemia under laboratory conditions, but no case of the disease has been recognized in commercial rabbitries. There is little danger of contracting tularemia from handling or eating domestic rabbit meat.

## Symptoms in Wild Rabbits

Wild rabbits that appear sluggish in movements and are visibly sick should be regarded with caution, especially if in an area known to be infected with tularemia. Yellow or white spots on the liver or spleen are the most easily recognized characteristic of this disease in the rabbit. Diagnosis is made by inoculating tissues taken from the suspected animal into test animals and then examining cultures isolated from the test animals after they become sick. The incubation period is usually about 3 days and the animals are likely to die within 5 or 6 days.

## Prevention

Prevention of tularemia depends entirely on personal precautions in handling sick or dead wild animals. It is best to wear rubber gloves while skinning or dressing wild game, especially rabbits. White spots on any internal organ should be a warning to bury or burn the carcass and immediately wash and disinfect the hands.

Other precautions include the thorough cooking of all wild game meat, the avoidance of drinking raw water obtained from streams that may be inhabited by infected animals, and protection from insect and tick bites in areas where tularemia is known to exist in the wildlife population.

Wild rabbits should not be confined in cages or rabbitries with domestic rabbits.

